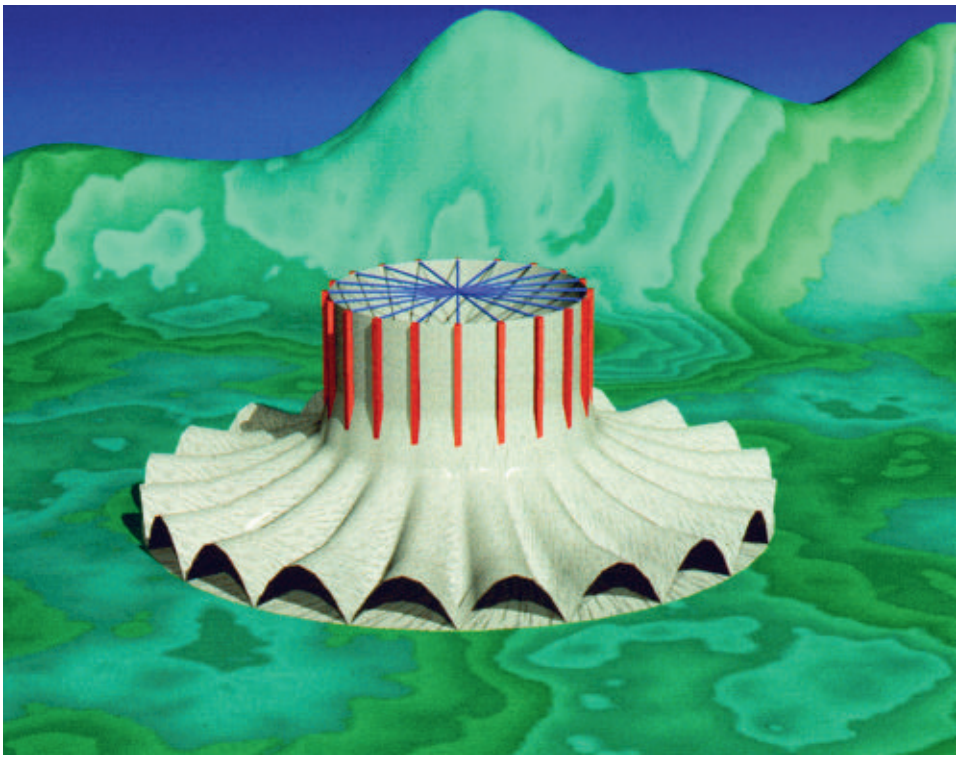
BITS computing&communications news

MARCH 1997

COMPUTING, INFORMATION, AND COMMUNICATIONS (CIC) DIVISION • LOS ALAMOS NATIONAL LABORATORY



Convection towers such as the one shown here use a spray of water at the top to cool the air and make it dense. Air enters the tower hot and dry and flows out cool and pleasantly moist at the base, turning wind turbines that generate a large amount of usable electricity. In these convection towers, water not only provides the motive force to move the air but it also can clean the air of particulate matter and some noxious gases. Los Alamos scientist Melvin Prueitt, developer of the convection tower, calculates that 95 towers (200 meters high and 200 meters across) could scrub half of Los Angeles' air while producing megawatts of electricity. This illustration was rendered using a Cray computer at the Los Alamos Central Computing Facility.

Inside this issue

CIC Customer Service Center . . . . . .(505) 665-4444 or cichelp@lanl.gov

Integrated Computing Network (ICN)
- Consulting:
  - Centralized scientific and engineering computing .....consult@lanl.gov or 7-5746
  - Lab-wide administrative and business systems.....labwide@lanl.gov or 7-9444
- Passwords (required for access to ICN) .....validate@lanl.gov or 5-1805

Central Computing Facility (CCF) 7-4584

Advanced Computing Laboratory (ACL) 5-4530

Desktop Support Center (DSC) 7-4357 (7-HELP)
- For PC questions: PC-help@lanl.gov or 7-9372
- For Macintosh questions: Mac-help@lanl.gov or 5-1361
- For UNIX questions: UNIX-help@lanl.gov or 5-2220
- For groups with CIC-2 support contracts: 5-2220

Telephone Services Center 7-3400
(includes voice mail)

Computer training
- Lab-wide systems support training.....7-9444
- Computer/workstation training 7-9399
- Personal computer training 7-9071
- Microcomputer support facility seminars.....7-4357
  (Macintosh/IBM software, lending library)

Network Operations Center (NOC).....noc@lanl.gov or 7-7423
(after hours call 7-4585)

List of Forms

CIC-6 Provides Desktop Consulting

Effective March 10, Desktop Consulting will be managed by the Customer Service Group (CIC-6). Previously, Desktop Consulting was managed by the Desktop Group (CIC-2). Desktop Consulting covers Macintoshes, PCs, and all their related software and network configurations. Other desktop functions, such as desktop administration, field support, and hardware repair, will continue to be managed by CIC-2. Users can reach Desktop Consulting via the 7-HELP (7-4357) phone number or by calling 5-4444, option 5.

Desktop Consulting Team Members (L to R): John Lucero, Judy De Augero, Geary Radcliffe, Diana Tuggle, and Weldon Scoggins.

Bringing Desktop consulting to CIC-6 consolidates a broader range of consulting services for the benefit of CIC Division and its customers. We've also added four new people to our staff to ensure adequate coverage of this function. Along with Desktop Consulting, CIC-6 provides Lab-Wide Systems Consulting, Integrated Computing Network (ICN) Consulting, and serves as the point of contact for general information about all CIC products and services.

To reach the appropriate consultant, dial 665-4444 and make your selection based on the following choices:

Option 1: New user topics including e-mail, passwords, smartcards, registration, and World Wide Web.

Option 2: Lab-Wide Systems such as Travel, Time and Effort, and Purchase Cards.

Option 3: Scientific computing, storage systems, and networking.

Option 4: Classroom instruction and training.

Option 5: Desktop Consulting for PC and Macintosh software and network configurations.

This move will give a new look and feel to Desktop Consulting, and CIC-6 is pleased to incorporate this very important function for the Laboratory. It is our intention to provide, through phone and e-mail, Desktop Consulting that is friendly, reliable, accurate, and timely. Our goal is to increase the effectiveness of people by enhancing their ability to use computers.

Diana Tuggle / Desktop Consulting Team Leader
Customer Service Group (CIC-6)

New Microsoft SELECT Program Lowers Software Costs

What is Microsoft SELECT?

Microsoft SELECT is a software-purchasing program that gives the Lab significant discounts through volume purchases of desktop software. Discounts exist for Microsoft PC operating systems and for PC and Mac application software. Through CJ Enterprises (CJE), the Laboratory signed a contract with Microsoft Corporation to enroll in their Microsoft SELECT program.

How can I save?

Use the following features in the new program to acquire software at discount prices.

Electronic Software Distribution. The Electronic Software Distribution (ESD) service on the Web provides the greatest savings in acquisition costs. Through ESD, users can acquire or upgrade software online without waiting for delivery or paying for media (diskettes and CDs), documentation (manuals), and costly packaging. Users will need an ICN password or Smartcard to register (make purchases) through the ESD service.

In ESD, a user will select from a list of software/upgrades, find installation instructions, and also register (pay) for a license (permission to use the application). Documentation is included online with the application. The Microsoft Corporation no longer provides printed manuals for most software.

Maintenance. For a one-time fee, users can purchase product-line maintenance (all upgrades and new releases of a product such as Microsoft Office Pro). The maintenance extends through December 31, 1998, and the fee will be prorated according to the date of purchase. Users can purchase maintenance through the ESD service.

Microsoft SELECT Provides:

- Significant savings for software
- One-stop shopping
- Upgrades and installations at your fingertips

Note: Users who already own applications will have until June 30 to purchase maintenance.

Media on loan. For users who cannot obtain the products electronically, CDs will be available on loan from the Research Library and the CIC-2 Software Lending Library to users who purchase product licenses and/or maintenance through ESD.

Bundles. CJE will carry application bundles (license, media, and documentation) at SELECT discount prices. Though more expensive than the ESD counterpart, the bundle will cost considerably less than the traditional CJE shrink-wrap software.

How much can I save?

Table 1 shows examples of the lower costs for SELECT products purchased through CJE and ESD. Note that the Lab's ESD service reaps the greater savings.

Table 1. SELECT Cost Comparisons (Last updated 2/97).

Software	ESD license	ESD Maint.	CJE Bundle	CJE Bundle with Maint.	CJE Shrink Wrap (no maint.)
MS Office Pro	$325	$207	$370	$588	$597
MS Office Standard	$271	$207	$316	$493	$497

How Can I Buy Software from the SELECT Program?

To order	Go to	Prerequisites
Software license and maintenance.	ESD	ICN Password or Smartcard.
Software maintenance.	ESD	ICN Password or Smartcard.
Mac and PC 32-bit MS Office, Word, Excel, and PowerPoint.	ESD	ICN Password or Smartcard.
Windows 95, NT.	ESD to register. Then access the REDI network server.	MS TCP/IP configured to WINS.
Microsoft Office for Windows and Mac.	ESD to register. Then access the REDI network server.	PCs need MS TCP/IP configured to WINS. Macs need Appletalk.
A Microsoft SELECT Bundle that includes: • a license and maintenance until December 31, 1998, • media (diskettes or CDs), and • documentation.	JIT and CJE. Locate the SELECT Bundle and order as usual, or use on-line STORES (keyword: integrated).	None

When can I buy discounted SELECT products?

The ESD service already carries a limited selection of software, and new products will be added soon. The following Information Architecture desktop standard software will be available first through SELECT: Microsoft Office, Word, Excel, and PowerPoint. However, all SELECT products will eventually be available. See "What's New" on LANL's home page for availability announcements. For more information about Microsoft SELECT, contact the Remote Electronic Desktop Integration (REDI) project at redi@lanl.gov. For more information about the REDI project, check out our home page at http://ns-cic2.lanl.gov/redi/.

Marcia Hunsberger, hunsberger_marcia@lanl.gov, 665-4668
Communications Arts and Services (CIC-1)

Research Library's WWW Online Catalog

The Research Library's Online Catalog is now available with an intuitive "point and click" interface via the WWW. You can access the WWW Online Catalog by going to the Research Library's home page (http://lib-www.lanl.gov) and then clicking on Online Catalog. Once you access the online Catalog Web page you can select either the new WWW Online Catalog or the Telnet Online Catalog.

The WWW Online Catalog has two basic search modes for accessing information—Search and Browse. The default mode is Search, shown in Figure 1. Notice also in Figure 1 that the Search and Browse modes can be accessed from the title bar, which is displayed throughout the WWW Online Catalog. Both the Search and Browse modes have a pull-down menu that allows you to select a specific index in which to search. The default index is Title. The other choices for index are Abstracts/Notes, All Words, Author, Conference, Corporate Author, Journal, Personal Author, Publication Year, and Subject. After selecting the appropriate index, you can enter the words on which the search will be based. If you're using the Search mode, enter the words under "Search Term(s)." If you're using the Browse mode, enter the words under "Browse Term(s)." Then select "Submit" to initiate the search. The Search and Browse modes provide somewhat different results and each has its own advantages.

When using the Search mode you can

• Enter search terms located anywhere within the tile of the book, journal, or conference (e.g., entering quantum mechanics brings up *Elements of non-relativistic quantum mechanics*);

• Combine search terms from different indexes (e.g., if you're looking for the lectures by Feynman, you could first enter feynman in the author index [29 records], and then refine the search by entering lectures in the title index [9 records]); and

• Enter truncated words (e.g., entering superconduct followed by a question mark [superconduct?] will initiate a search for superconductivity, superconductors, etc.).

When using the Browse mode you can

• Enter browse terms of approximate spelling and receive records that closely match your entry, so correct spelling is not always essential;

• Enter acronyms and receive full heading records (e.g., entering DOE renders Dept. of the Environment [Great Britain] and Dept. of Energy [United States]);

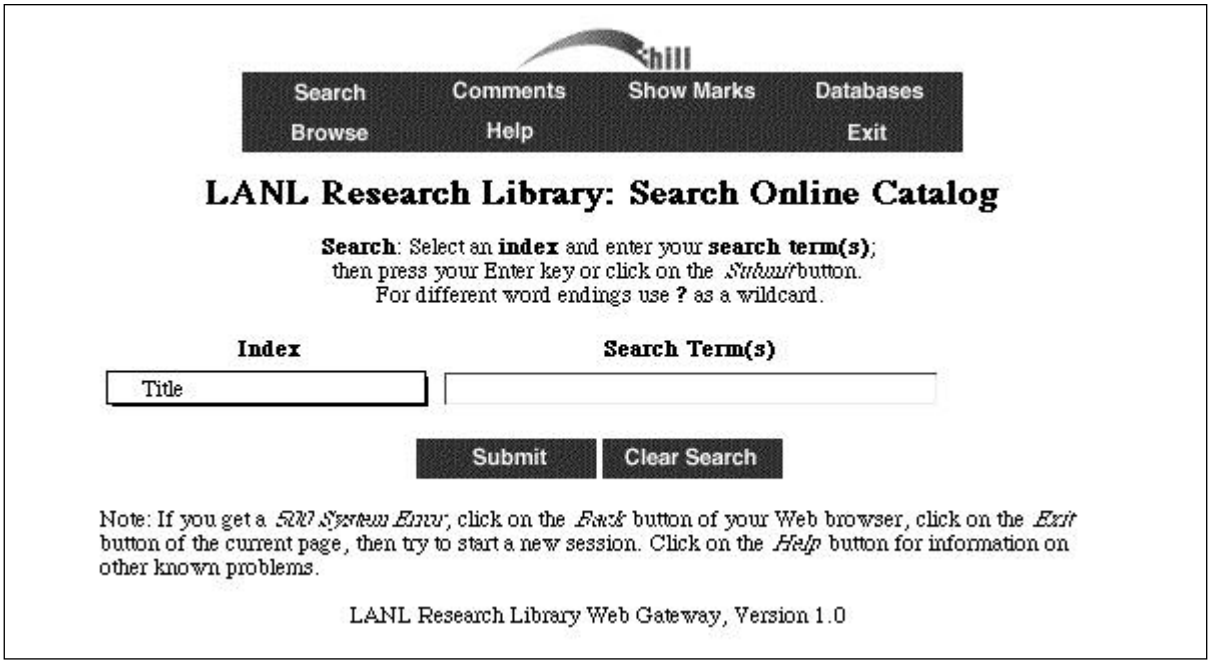


Figure 1. WWW Online Catalog in Search Mode

• Receive a listing of related subject terms (e.g., browsing the subject index for artificial intelligence displays 348 hits for that term but also presents narrower concepts with fewer hits which might be closer to your specific topic [see Figure 2.]); and

• Access call numbers and technical report number indexes (because of the nature of these indexes, they are available only in the browse mode).

Search results contain up to 10 records per Web page. A jump bar allows you to move to the next set of ten. The brief record display contains enough information to locate and cite the document. Click on the "Full Record" button to access additional information, including related subjects and abstracts when available (see Figure 3 on page 6). Records are presorted in reverse chronological order, with the most recent records first.

Each record also contains information about the location of the document within the Research Library and, in some cases, links to the document itself. If you find a record with an electronic version of the document, a WWW location will be noted and the hyperlinked URL can be used to directly access the electronic version. This will either cause the document to be launched using Abode Acrobat or it will send you to a specific Web site where the document resides. As the Research Library adds more electronic journals and books, this feature will gain in importance.

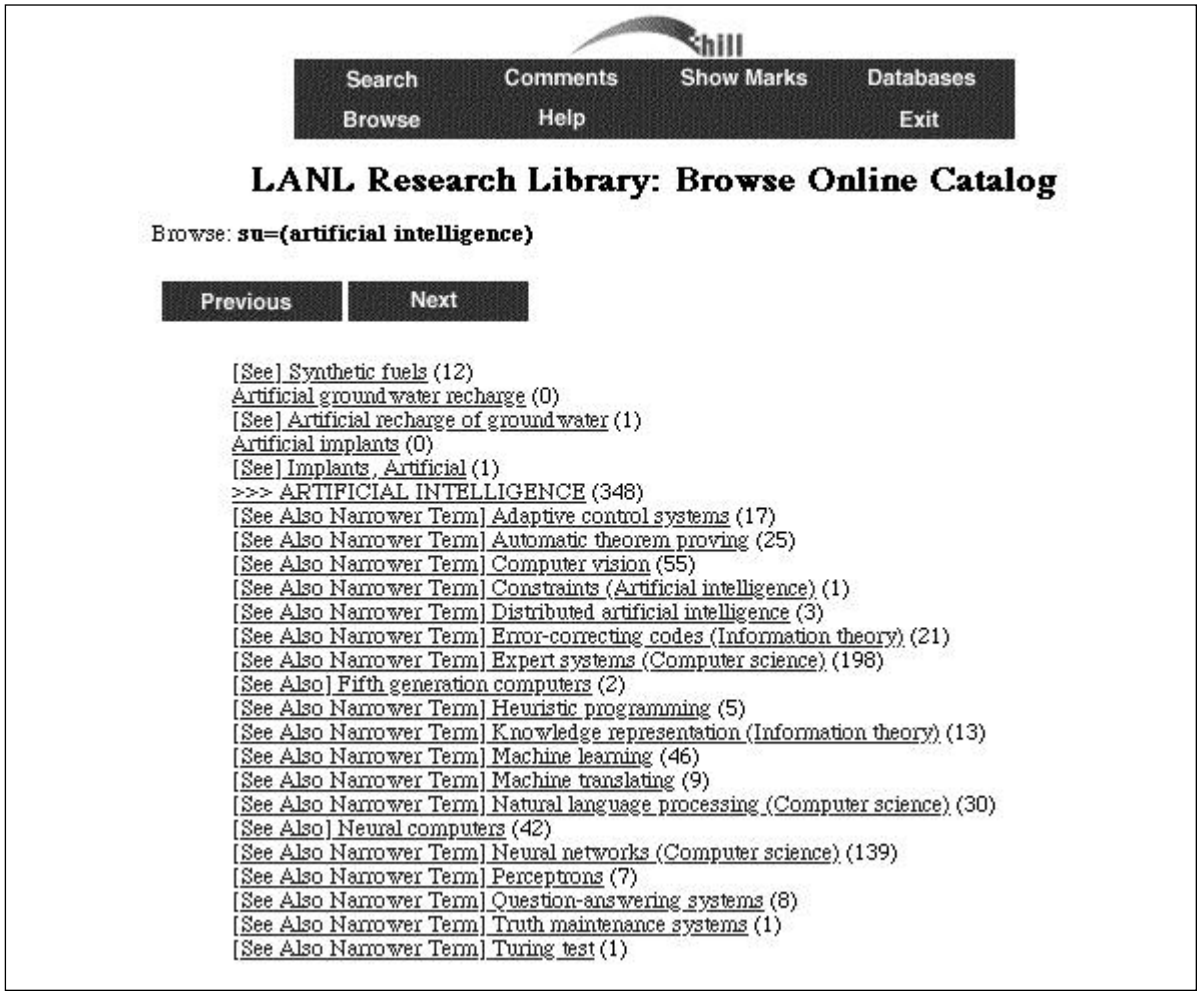


Figure 2. Listing of Related Terms Using Browse Mode

Some records contain links to other related records. Suppose you are viewing a record that is right on target with respect to information you need. To access related records, select the "Full Record" button and then click on the link listed next to "Subject(s)." You will see a list that indicates how many other related records are in the Online Catalog.

As you work through your list of records, you can collect records of interest by selecting the "Mark" button. Then select "Show Marks" from the title bar to display these records; from here you can print, save, or e-mail any or all of the marked records.

There are still some good reasons to use the Telnet version of our Online Catalog including:

- More detailed information on document availability,
- Adjacency and proximity searching, and
- Record sorting by author or title.

The Research Library's WWW interface is an evolving product. We are continually striving to improve the interface to better serve the information needs of our customers. Please feel free to send suggestions, questions, or comments to library@lanl.gov.

Frances Knudson, fknudson@lanl.gov, (505) 667-3031
Research Library (CIC-14)

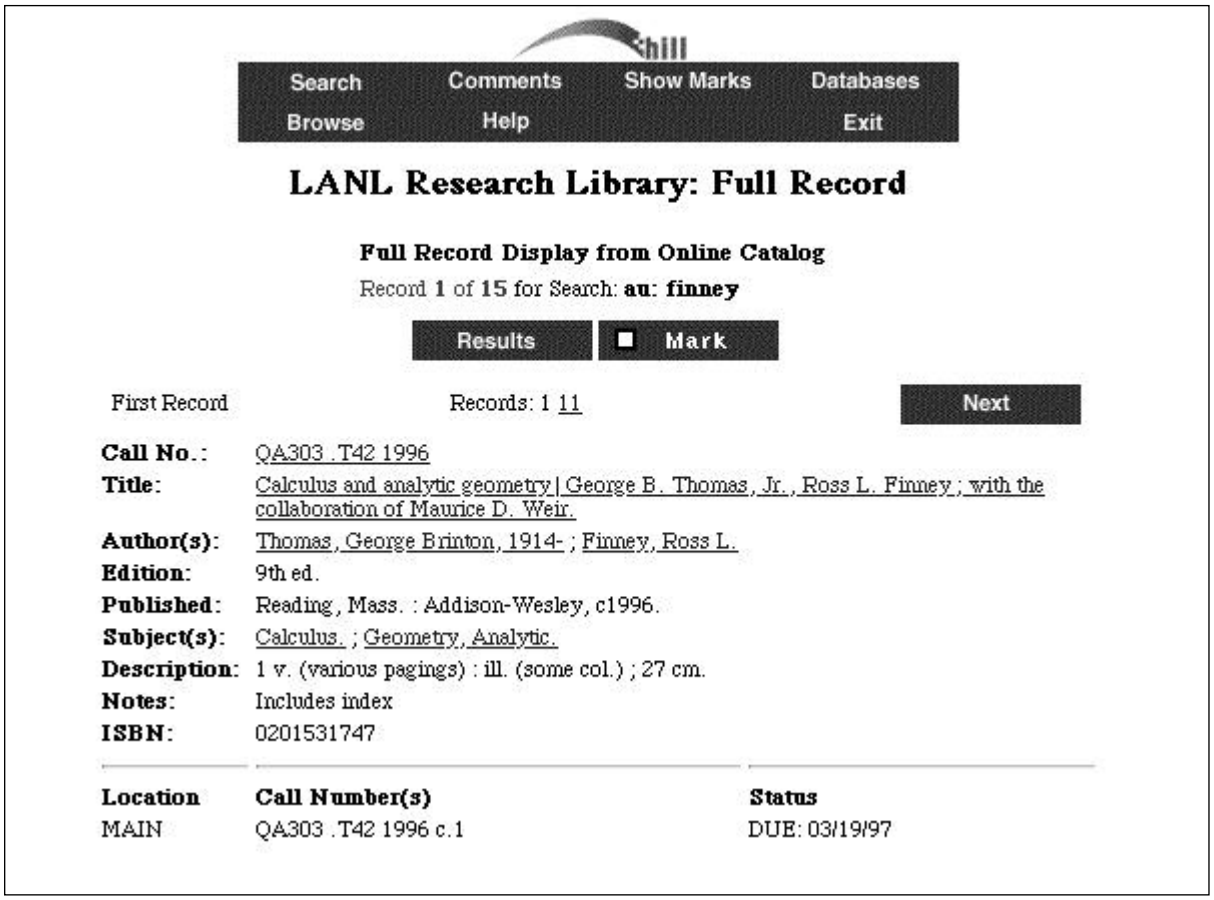


Figure 3. Display of Full Record

Configuring Telnet as a Supporting Application under Netscape 3.X

Telnet Basics

Telnet is a terminal emulator used to log-on to another computer on the Internet. The computer you "Telnet" to is referred to as the "host" and your computer essentially becomes a terminal on the host computer.

Generally, you must have an account set up on the host to connect. At the time you connect, the host prompts you for your user name and password. After connecting, the host computer grants a specific access level to your computer based on your log-on name. Depending on the access level the host grants, you may use various services on the host such as its memory, disk drives, and programs.

At LANL, Telnet is used to access hosts like IA, Register, Pager, and others. While you may launch Telnet and access these systems, it is very convenient to be able to launch Telnet automatically when browsing the World Wide Web. For example, if you wanted to change your ICN Password but were unsure of the procedure, you could go to the LANL home page and select "Computing" under "Services" and then select "ICN Validation, Registration and Changing ICN Passwords." This page provides a selection entitled "Register for ICN accounts, E-Mail, or change ICN passwords." If properly configured, Netscape will automatically launch Telnet and connect your computer to the Register machine simply by clicking on this selection. If you receive an error message that Netscape is "Unable to find Application," Netscape is not properly configured.

Obtaining A Telnet Application

To configure Netscape to automatically launch Telnet, you must first have Telnet installed on your computer. Although different manufactures may give their version of Telnet various file names, they are most commonly referred to as Telnet or Telnet applications. Regardless of the manufacturer's name, these Telnet applications are referred to as "Telnet" throughout the remainder of this article.

Note to Windows 95 and NT users: The Microsoft Telnet application (telnet.exe) is probably already installed on your machine (in the c:\windows subdirectory). Although this Telnet application is not the LANL Information Architecture standard, it will work. However, downloading and installing the LANL software is recommended.

To determine which version of Telnet is appropriate for your computer, see Table 1 below. All of the Telnet applications listed in Table 1 can be downloaded free of charge from the CIC-2 Electronic Software Distribution (ESD) Web page, which is located at www-cic2.lanl.gov/esd (or access it from the LANL home page under "Info by Subject").

Table 1. Telnet Applications for Macintosh and Windows

Platform	Telnet File Name	Default Location
Macintosh	Ncsa Telnet	NCSA Telnet 2.6
Windows 95/NT 4.X	TNVT.exe (Note: download and install Onnet32 version 2.0, which contains TNVT.exe.)	c:\Program Files\FTP software\Onnet32\TNVT
Windows NT 3.51	WTNVT.exe (Note: download and install Onnet32 version 1.0, which contains WTNVT.exe.)	c:\Tmterm
Windows 3.X (and Windows for Workgroups 3.X)	WTNVT.exe (Note: download and install Onnet version 2.0, which contains WTNVT.exe.)	c:\pctcp or c:\pctcp\tcp

Configuring Netscape To Use Your Telnet Application

After installing Telnet on your machine, follow the steps below to configure Netscape so that it will automatically launch Telnet when requested by a referencing Web page.

1. Note the file name and complete path of your Telnet application.

2. Launch Netscape.

3. Pull down the "Options" menu and select "General Preferences."

4. Select the “Apps” tab on PCs or the “Applications” tab on Macs.

5. Use the “Browse” button to select your Telnet application.

Note: On the PC, you may enter this information manually.

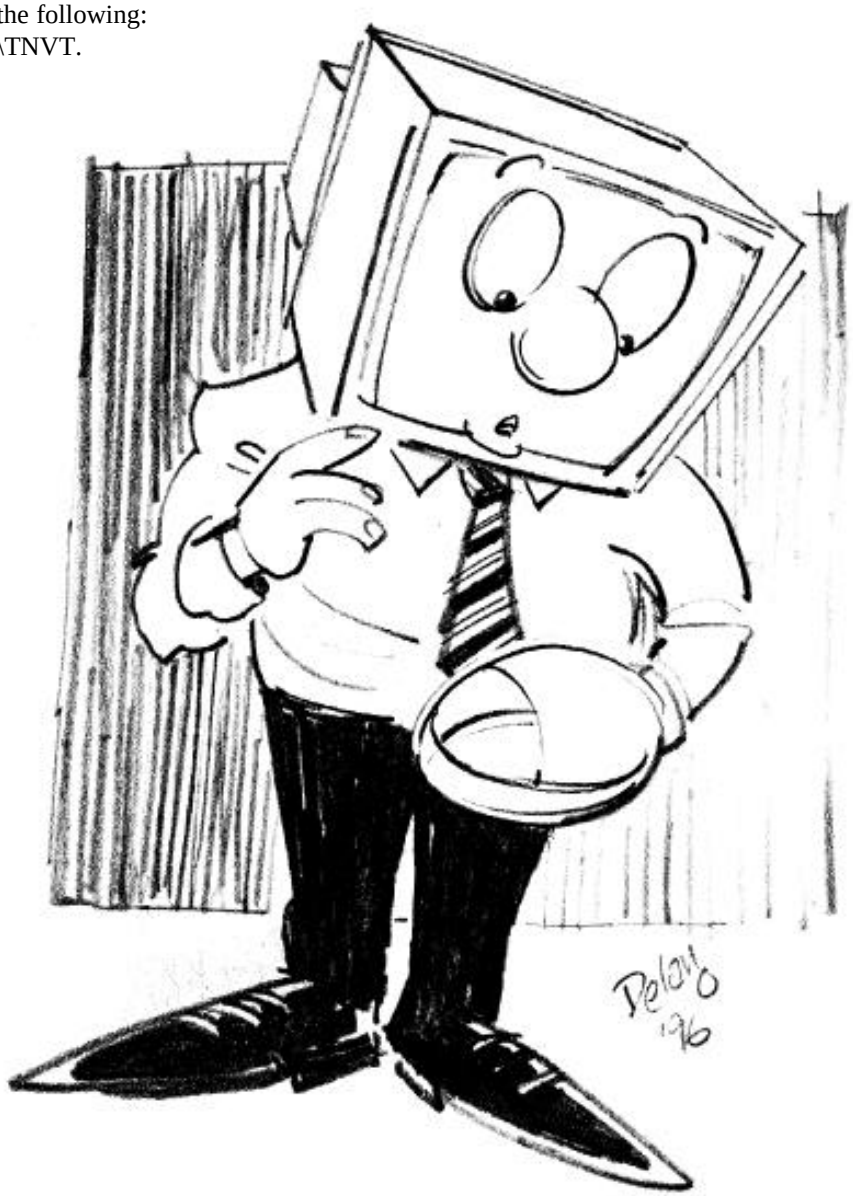
6. Under “Supporting Applications” click on the field (box) labeled “Telnet Application:”

7. Enter the complete path and file name of your Telnet application. For example, if you were using the Telnet application that comes with Windows 95/NT 4.X (when Microsoft Network is installed) you would enter the following: c:\ProgramFiles\FTPsoftware\Onnet32\TNVT.

8. To complete the configuration and save this information, click “OK” to close the “General Preferences” window.

To test your configuration, select “Computing” under “Services” on the LANL home page and then select “ICN Validation, Registration and Changing ICN Passwords.” Now select “Register for ICN accounts, E-Mail, or change ICN passwords,” Your Telnet application should launch and connect to the LANL Register host machine.

Mike Mikus, mikus@lanl.gov
(505) 667-4861
Team Leader / Desktop Group
(CIC-2)



Accessing GUI Lab-Wide Systems on the Macintosh

Sometimes Macintosh users have trouble accessing the GUI Lab-Wide Systems (i.e., Data Warehouse, Travel, Time and Effort, Employee Development, and Purchase Card). If you receive an error message like the one shown in Figure 1, follow the instructions listed below.

1. Click on the OK button to close the error message window.

2. Under the Apple Menu, select Control Panels/SybaseConfig.

3. If the dialog box shown in Figure 2 appears, go to step 5.

OR

4. If the SybaseConfig dialog box appears (shown in Figure 3), click on the "Interfaces File" button and then go to step 5. (This will cause the dialog box shown in Figure 2 to appear.)

5. Locate the Sybase folder under the pull-down menu on the dialog box as shown in Figure 2. (The Sybase folder should be in your System folder.)

6. Highlight "Interfaces" and then click on the Open button. (This will cause the SybaseConfig dialog box to appear.)

7. Click on the box located in the upper left hand corner of the SybaseConfig dialog box. (This will close the SybaseConfig dialog box.)

You should now be able to access any of the GUI Lab-Wide Systems on your Macintosh. If you still have trouble, contact the Lab-Wide Consultants at labwide@lanl.gov or 665-4444, option 2.

Mary Billen, mbillen@lanl.gov
(505) 665-3195
Customer Service group (CIC-6)

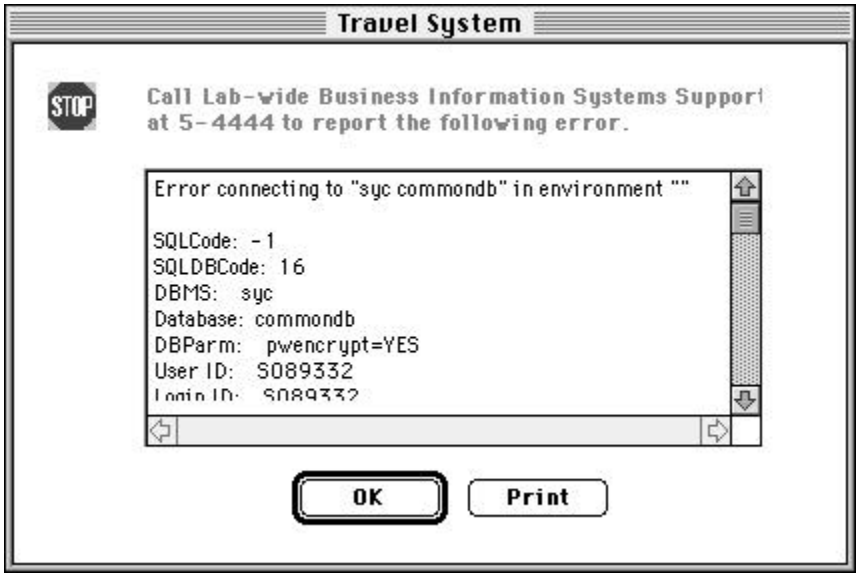


Figure 1. Error Message

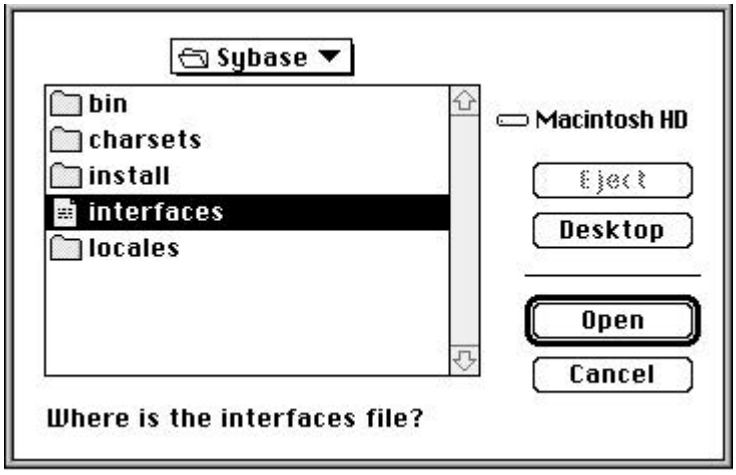


Figure 2. Dialog Box

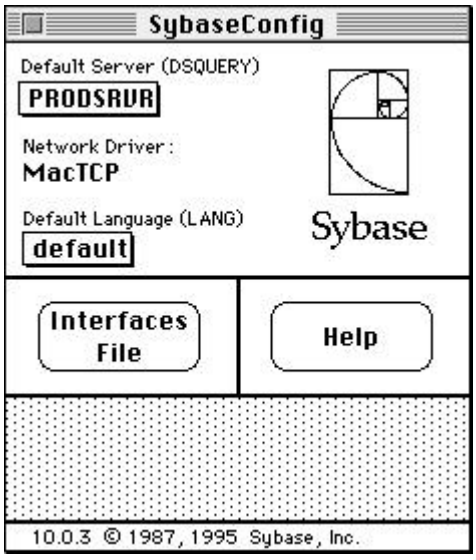


Figure 3. SybaseConfig Dialog Box

JavaScript Observations and Tips: Part I

Something about the Web—It's active. Just as soon as we think we know something, somebody's always coming up with something new. Sometimes the new features are useful (such as the HTML extensions that evolved into HTML 3.2); sometimes they're not (such as the persistent but still non-standard <BLINK>); rarely can we effectively evaluate them until after they've been in the market long enough and implemented widely enough to stabilize.

One of the most promising areas of development has been "scripting languages," which extend HTML to include some basic programming commands for the browser. JavaScript, VBScript, JScript, and Tcl/Tk are but some of the more popular scripting languages, each offering its own benefits and drawbacks.

Of the various options, JavaScript currently has the practical advantage of being the most widely supported. In one form or another, it is supported by Netscape Navigator 2.0 and higher, and Microsoft Internet 3.0 and higher (including those Windows 3.1 versions that don't support Java). These are by far the most popular browsers currently in use. (Netscape 2.02+ and 3.0 are the current IA browser standard. Also, a recent check of the agent logs for the central Laboratory Web server shows roughly 85% of the traffic coming from Netscape Navigator 2.0 and 3.0 and Microsoft Internet 3.0, with the remainder primarily coming from older versions of the same browsers and automated indexing robots.)

In acknowledgment of this level of support, the Information Architecture (IA) Project recently added the <SCRIPT> tag to its IA-5815: Laboratory Standard HTML, thereby incorporating JavaScript on a general level.

This article will offer a few observations about and tips for JavaScript. For this month, the focus will be at a fairly general level, hopefully helping to clarify some common questions and to evaluate when and how to use JavaScript. For later BITS articles, I plan to address some specific applications such as multi-line messages and search engine interfaces.

What JavaScript Is and Is Not

In a very general sense, JavaScript is a scripting language developed by Netscape and endorsed and/or supported by more than 30 other companies, including Sun, Digital, Hewlett-Packard, Silicon Graphics, and Microsoft. It remains a proprietary language (trademarked by Sun), though Sun, Netscape, and Microsoft have been working with the European Computer Manufacturers Association (ECMA) to develop a shared standard.

Because it is executed on the client machine, JavaScript can frequently respond to users more quickly and effectively than server-side CGI (Common Gateway Interface) scripts. For example, JavaScript is often a good choice for basic <FORM> input validation because it can execute at the time the input is made. For more thorough validation, such as comparing the input against long lists of valid entries, server-side CGIs are frequently better because they don't require the entire list to be downloaded to the client.

JavaScript is not a robust, compiled language like Java or C++. It is a simple language interpreted by the browser in much the same way that HTML itself is interpreted. The benefits of this deliberate limitation are that JavaScript is (a) easier and faster to learn and use and (b) can be written once and run on multiple platforms. The corresponding drawbacks of JavaScript are that (a) it cannot perform highly complex tasks; (b) it takes longer (in general) than compiled languages to download, interpret, and execute; and (c) it invites use from otherwise non-programmers whose enthusiasm can overcome (from time to time) their sense of restraint. Just because something can be done does not necessarily mean it should be done.

JavaScript can be good, for example, for instructing the browser to display explanatory messages when the user points the mouse over a certain region of the screen, for constructing rudimentary calculators and converters, or for providing a layer of instructions beyond what is capable in straight HTML (such as the search engine interface I plan to discuss in a later article). It is not good, however, for constructing a complex spreadsheet, for acting as a search engine on its own, or for anything that distracts from the content instead of enhancing it.

Also, "JavaScript" is not always "JavaScript." There are at least three variants identified below with the names used in the "LANGUAGE=" or "TYPE=" attribute:

• "JavaScript" itself refers to JavaScript version 1.0, which is supported by Netscape 2.0 and higher and by Microsoft Internet 3.0.

• "JavaScript1.1" refers to JavaScript version 1.1, which is supported by Netscape 3.0 but ignored by Netscape 2.0 and Microsoft Internet 3.0.

• "JScript" refers to Microsoft's version of JavaScript, which is supported (as far as I can tell) by no browser other than Microsoft Internet 3.0.

• "ECMAScript" is the code name for the new scripting language under development by the ECMA working group. This is not yet supported by any major browsers, and it is not yet clear whether it will be completed or how widely it will be implemented.

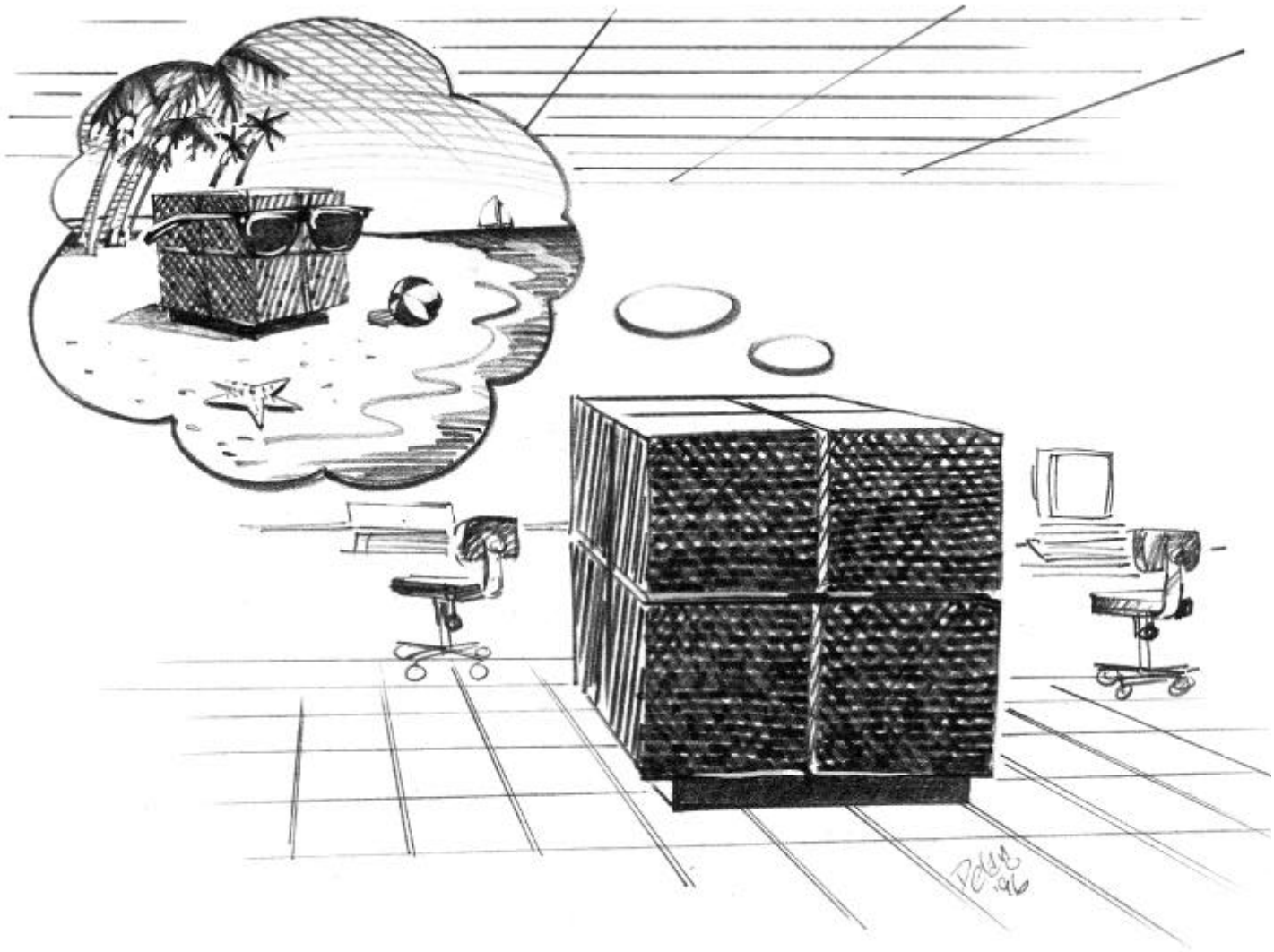
Of the above variants, "JavaScript" is by far the most widely and consistently supported (even though it is sometimes interpreted differently by different browsers, including, on occasion, different versions of the same browser).

Inserting JavaScript into an HTML Page

JavaScript is inserted into a standard HTML page by enclosing it within a <SCRIPT> tag as follows:

```
<SCRIPT LANGUAGE=JavaScript>
<!— start HTML comment
the script
// end HTML comment —>
</SCRIPT>
```

The "LANGUAGE" attribute defines which version of script language to use and lets the browser know whether or not it can understand the language. If, for example, JavaScript1.1 features are being used but the "LANGUAGE" attribute is either omitted or wrongly set to plain "JavaScript", then browsers such as Netscape 2.0 will attempt to interpret the script, leading to error messages. A number of pages on the Web don't use this attribute or use it incorrectly, causing unnecessary problems for many users.



Note: There have been proposals before the W3C to use a "TYPE=" attribute instead of the "LANGUAGE= attribute", and/or an <EMBED> tag instead of the <SCRIPT> tag. Although both proposals hold promise, it is not yet clear whether they will be adopted or implemented. The IA standard HTML currently recognizes <SCRIPT> and LANGUAGE= as provisional markup, since those are the variants most widely supported.

Inside the <SCRIPT> </SCRIPT> area, the script itself is inserted inside an HTML <!— comment —> in order to prevent older browsers from attempting to read it. The "//" at the start of the end comment line is a JavaScript comment which tells the browser to not attempt to interpret the line as JavaScript.

The script can either execute itself or define functions that are executed by events in a page. In Example 1 the script executes itself (as soon as a page finishes loading).

Example 1: Self-Executing Statement

```
<SCRIPT LANGUAGE="JavaScript">
<!— begin comment
document.write("Hello World");
// end comment —>
</SCRIPT>
```

By contrast, the script in Example 2 defines a function which is not executed until it is explicitly called from somewhere else.

Example 2: Function Definition

```
<SCRIPT LANGUAGE="JavaScript">
<!— begin comment
function helloworld() {
document.open();
        document.write("Hello World");
document.close();
        }
// end comment —>
</SCRIPT>
```

Note: In the above example, document.open and document.close are needed for the browser to know where to write the message. This is only needed in function definitions where the browser would not otherwise know where the message belongs.

The function could then be called by an "Event Handler" such as

```
<BODY onLoad="helloworld()">
```

Other event handlers can be embedded within other HTML tags and include such events as "onMouseOver", "onClick", and "onSelect".

Common Issues, Problems, Observations

Netscape (and others) suggests that putting the script into the <HEAD> section of a document is a good way to ensure that the script is fully loaded before the page is displayed, thereby reducing the chance that the user will hit the "stop" button in the middle of a script. Although this is useful advice in many cases (and widely followed), other considerations can mitigate it.

If the script is very long, for example, putting it in the <HEAD> section can cause substantial delays before the page display even begins. In such cases, it may be better to put the script farther down in the <BODY> section, so that users can at least view part of the page without an extensive wait. This approach admittedly holds the danger that users might try to call a function before it is defined (by clicking on an image, etc.), but at least it can give users something to look at while they wait.

According to the written specifications (to date), a semicolon (";") can be used to signify the end of a command, but it is not needed if a line ends where the command ends. Both of the following should operate identically:

```
document.write("Hello World")
document.write("Hello World");
```

In practice, though, it seems to be a good habit to include the semicolons. It benefits the overall clarity of the code (since not every line end is a command end), and there have been some occasions where I've seen certain browsers encounter problems that seem to have been caused by missing semicolons. (It is difficult to argue about "compliance" when a "standard" has yet to be agreed on.)

Personally, I plain old dislike the use of JavaScript to put messages on my browser's status bar. I rely on the status bar to give me information about links, the status of connections, etc. The only exception to this (sometimes) is when a clearer explanation of a link is provided, thereby improving the readability of the information I expect there anyway. (I state this as a personal preference, but I'm certainly not alone.)

Perhaps most importantly, we shouldn't use JavaScript at all unless it clearly adds value, and then use only what is needed. Every line of JavaScript uses up bandwidth and takes time to download, interpret, and execute; we owe it to our users to

only give them things that are worth the wait. (Running dogs don't cut it in my book.)

Plan for Portability

As is true throughout Web authoring, it is good to write JavaScript in a way that accommodates browsers that do not support it. This is not just done for the benefit of people using older browsers; a user with the latest version of the IA-standard Netscape 3.0 may have chosen to disable JavaScript for security concerns (regardless of whether the security risks are significant).

Basic first steps are to enclose the JavaScript in <!— —> comments and to specify the LANGUAGE= as described above. Also, as always, it's a good idea to test the script under multiple browsers on multiple platforms.

When using a <FORM> field to display a multi-line message, set a default message as follows:

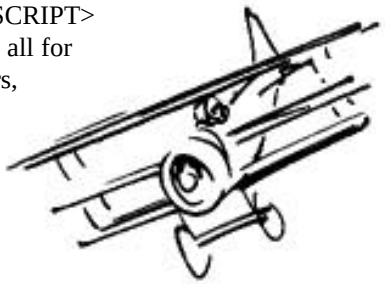
```
<INPUT TYPE=TEXT VALUE="default message">
```

or

```
<TEXTAREA>default message</TEXTAREA>
```

Non-JavaScript browsers will then show the default message in place of the longer JavaScript-generated message.

Note: The above approach only works with a "document.forms[].elements[].value=" construction that refers to a <FORM> that is created outside the <SCRIPT>. Forms that are built with "document.writeln('<FORM>')" constructions within the <SCRIPT> will not be displayed at all for non-JavaScript browsers, so a default message will have no effect.



It might also be useful to put an alternative message in a <NOSCRIPT> tag. The IA project is currently evaluating this tag for inclusion in its HTML standard. At the time of this writing, however, no decision has been reached.

Throughout, we shouldn't rely on JavaScript alone to perform essential functions or provide essential content, especially when we're writing for a global audience using a wide variety of browsers. When there is no good way to accommodate non-Java browsers without losing significant content, we should consider building alternative pages for them, possibly redirecting them through a "navigator.appName", "navigator.JavaEnabled", or similar test.

Note: I'm currently investigating several approaches to browser tests and redirects. Among the considerations are the speed of execution, consistency of results, and multi-browser applicability (including browsers that have not yet appeared). I plan to address this subject in more detail in a later BITS article; in the meantime, I'll welcome input from anyone who has experience with redirects.

For More Information

For more information about the IA Project in general, including the current status of our guidelines and standards, please see our home page at http://www.lanl.gov/projects/ia/ (or look under "What's New" from the Laboratory home page). For more information about JavaScript, including tests that are currently underway and links to additional resources, please see the IA Internet/WWW subject area's page at http://www.lanl.gov/projects/ia-lanl/areas/int-web/ (Laboratory IP addresses only). If you would like e-mail or printed copies of any of the IA materials, please contact me at the address given below.

Tad Lane, tad@lanl.gov, (505) 667-0886
Information Architecture Standards Editor
Communications Arts and Services (CIC-1)

Research Library Training

The LANL Research Library provides training for using its specialized databases. Training sessions begin and end at times indicated below. Classes are free but you must preregister by calling the Research Desk at 7-5809 or sending e-mail to library@lanl.gov. Special classes and orientations can also be arranged.

Date	Time	Subject Matter
3/4/97	1:00 - 1:30 p.m.	SciSearch Alerting Service
3/5/97	1:00 - 1:30 p.m.	Finding Addresses and Phone Numbers on the WWW
3/6/97	1:00 - 1:30 p.m.	Finding Environmental Information on the WWW
3/6/97	2:00 - 4:00 p.m.	InfoSurfing: Basic Web Searching Strategies
3/11/97	1:00 - 1:30 p.m.	SciSearch at LANL—At your desktop!
3/13/97	1:00 - 1:30 p.m.	Research Library Catalog via the WWW
3/18/97	1:00 - 1:30 p.m.	Grant and Funding Information
3/19/97	11:00 - 11:30 a.m.	MELVYL (U of CA specialized databases)
3/20/97	1:00 - 1:30 p.m.	Finding Business Information on the WWW
3/20/97	2:00 - 4:00 p.m.	InfoSurfing: Basic Web Searching Strategies
3/25/97	1:00 - 1:30 p.m.	Search Engines, Advanced Web Searching
3/27/97	1:00 - 1:30 p.m.	Energy Database via the WWW

Lab-Wide Systems Training

The Customer Service Group (CIC-6) offers training for users of Laboratory information systems. The CIC-6 courses offer training for a variety of personnel including property administrators, group secretaries, training coordinators, budget analysts, group leaders, or anyone needing to access training records, property records, costs, employee information, travel, chemical inventories, etc. Refer to the table below and on the following pages for specific information about courses currently offered.

Course Registration

You must have a valid ICN password before taking any of the courses shown in the table. To register for a course, call the CIC-6 Training, Development, and Coordination section at 667-9559 or access our Web page. From the LANL home page, look under "Services/Computing at LANL/Training" or enter the URL:

http://www.lanl.gov:8010/computer-information/cic6/teampage.html

Course Title	Date	Time	Cost	Course Number
Employee Development System - Basic Training (EDS I)	3/12/97 & 4/9/97	8:30–12:00	$350	Course #5289
	The course provides hands-on instruction to request course enrollment, use the on-line course catalog, retrieve training transcripts, and assign EDS authorities. The student will learn to create courses, add students to the courses, and generate several training reports.			
Employee Development System - Training Plans (EDS II)	3/31/97 & 4/23/97	1:30–5:00	$350	Course #7155
	Participants receive hands-on instruction to create and maintain training plans, assign assignment codes, and generate training plan reports. Attendees must have prior training in the Employee Development System (course #5289).			
Eudora Electronic Mail	TBA	1:30–3:30	$175	Course #9762
	This class is a hands-on class that teaches the participant how to use Eudora software to create, send, receive, and edit electronic mail messages. In addition to these procedures, the participant will learn what related settings mean and how to configure the system to meet his or her individual needs.			
Data Warehouse Basics	3/26/97 & 4/30/97	8:30–10:30	$175	Course #11961
	Students will receive hands-on training to generate standard reports and make quick queries from information in the data warehouse, a real-time collection of data tables from Laboratory financial, time-reporting, and personnel systems.			
Data Warehouse/ Financial Reporting	3/26/97 & 4/30/97	8:30–12:00	$350	Course #11960
	Students will receive hands-on training to generate standard financial reports and make on-line queries from information in the "data warehouse," a collection of data from Laboratory budgeting, accounting, and time-keeping systems.			
HTML Basics	3/18/97 & 4/22/97	8:30–12:00	$350	Course #11605
	Students will gain a basic understanding of HTML (Hypertext Markup Language), the language for the World Wide Web. Topics covered will be commands and standards, creating and editing documents, and authoring programs.			

Course Title	Date	Time	Cost	Course Number
HTML Tables	3/28/97 & 4/30/97	1:30–5:00	$350	Course #11959
	Students gain basic understanding of how to create various tables in HTML and new tags in HTML 3.0. Netscape-specific tags are also identified for clarity. Prerequisite: HTML Basics (Course #11605) or permission of the instructor.			
Introduction to the Internet: Beginning Netscape	3/20/97	1:30–3:30	$175	Course #10961
	Students gain basic understanding of the Internet and the World Wide Web and the use of Netscape as a browser to surf the Net. Topics covered are both Laboratory sites and open sites, along with practical uses of the Internet.			
Lotus Notes 4.0	3/19/97 & 4/16/97	1:30–5:00	$350	Course #9917
	This class provides hands-on instruction for Mac and PC users to use Lotus Notes software to create and send E-mail memos; fax documents; search databases; create filters, nicknames, banners, and doclinks; set defaults; and use multiple address books. In addition, participants learn how to use the memo, meetings, and discussion databases.			
Meeting Maker	3/4/97 & 4/8/97	1:30–4:00	$175	Course #12395
	Students learn how to create an address book, create personal groups, utilize the Auto-Pick feature, utilize e-mail integration with non-Meeting Maker users, and customize various Meeting Maker features.			
On-Line Forms	TBA	3:30–5:00	$175	Course #9756
	Participants will learn to use Netscape software to access Lab-wide information and forms. Using Jetform Filler software, participants will access, complete, and print forms such as the "ICN Validation Request," "Visitor Request for Unclassified Visits to Security Areas," and "Request for Quotation."			
Purchase Card System	TBA	1:30–2:30	$175	Course #11924
	Students will learn to reconcile monthly statement of account, submit reconciled statement of account for approval, print statement of account for audit records, and delegate reconciliation authority. Prerequisite: PCS Overview. Call Ruby O' Rear at 665-4523.			
Reporting with Infomaker	4/17–18/97	8:30–5:00	$650	Course #11054
	Hands-on training to query data and develop ad hoc, or non-standard, reports from the LANL data warehouse using Infomaker software.			
Time and Effort System (GUI)	TBA	8:30–10:00	$175	Course #11018
	The student will learn how to enter attendance, amend attendance, approve attendance, and submit exception and approval reports. Time codes and associated policies will be discussed. The student will also learn how to use the Information Manager utility to view and print reports.			
Travel	3/4/97 4/15/97	8:30–12:00 1:30–5:00	$350	Course #12091
	Hands-on training to submit and approve travel requests and expenses in the new Travel System which replaces the TRIPS on-line system and the post-travel expense worksheets.			

Vendor Computer Training

The Customer Service Group (CIC-6) supports vendor training in technical computing areas such as programming languages, system administration, networking, and World Wide Web development tools. The support provided by CIC-6 can be as limited as providing the appropriate facilities for a specific group or as extensive as coordinating training functions such as system administration, vendor acquisition, EDS administration, and class facilitation. The table below lists classes that are either currently being offered or are available on request. An expanded list of classes that are potentially available can be viewed on the Internet at

http://www.lanl.gov:8010/computer-information/ComputerTraining/Vendor.html

To request registration in any vendor course or for general assistance with vendor training, please contact the CIC-Division Vendor Training Coordinator at (505) 667-9399 or send e-mail to cic6-train@lanl.gov. *Cost per student will vary depending on the total number of students enrolled in the class.

Course Title	Date	Time	Cost	Course Number
C Programming (Beginning)	Available on Request (5 days)		$1600 – $1900*	3996
	Prerequisite(s): An understanding of and useful skills in a high-level programming language. A current ICN password is required. Topics Include: Introduction and Fundamentals; Basic Semantic Constructs - Getting; Base Level I/O With C; The Preprocess-Compilation Environment; Operators, Data Types, and Storage Classes; Control Flow Constructs; Conditional Constructs; Higher-Level Data Constructs in C; File I/O; UNIX Software Tools and POSIX System Calls.			
C Programming (Advanced)	Available on Request (5 days)		$1600 – $1900*	4777
	Prerequisite(s): Useful skills and experience with the C Programming. A current ICN password is required. Topics Include: Data Structures, Algorithms, and OOP; An Advanced Clinic for C ; The ANSI C Recommendation X3.159; C and ANSI C War Stories; The Data Structure and the Assessment of Algorithms; Arrays; Structures; Unions; Stacks; Queues; Linked Lists; Recursive Functions; Binary Trees; Hashing; File Organizations Using the C Runtime Library; Standard Interprocess Communication Mechanisms; and An Introduction and Overview of AT&T's C++ 3.0.			
C++ for Experienced Programmers	Available on Request		$1600 – $1900*	9050
	Prerequisite(s): Excellent C Language programming skills. Topics Include: Major Differences and Additions to ANSI C; Building C++ Classes; Introduction to Text I/O with C++; Function Overloading; Single Inheritance; Virtual Functions; Multiple Inheritance; Operator Overloading; Creating, Initializing and Assigning Objects; Passing and Returning Objects; Templates, Parameterized Functions and Classes; C++Stream I/O with the File System; and C++ Course Summary.			
Java Programming (Beginning)	3/17–19/97	8:30–5:00	$800 – $1,000*	11686
	Prerequisite(s): Students must have the ability to create compiled programs using an advanced language (such as C or C++) and the knowledge to use basic Solaris commands and a World Wide Web browser (such as Mosaic or Netscape). Topics Include: Overview of the Java Programming Language, the HotJava WWW Browser, Applets, Audio and Animation, Importing Java Classes, Attaching Applets to HTML, Object-Oriented Programming Methodology, and Identification of Main Features of Java (including classes, servers, and security).			

Course Title	Date	Time	Cost	Course Number
Java Applications Programming	3/20–21/97	8:30–5:00	$600–$800*	11687
	Prerequisite(s): Completion of Beginning Java Programming course or equivalent knowledge. Topics Include: Developing Java Applications; Point-of-Sale Interfaces; Writing Java Code (demonstrating Java security, interactivity, graphics, audio, and animation); Java Class Packages and Subclasses; Memory Allocation and Garbage Collection Work; Interfaces, Exceptions, and Access Modifiers; Multithreading; and Extending Java.			
Managing Internet Mail: Setting Up and Troubleshooting Sendmail and DNS	Available on Request (3 days)		$1300–$1800*	
	Prerequisite(s): General knowledge of Unix system and network administration as well as experience with sending and receiving Internet electronic mail. Topics Include: Introduction to Using Electronic Mail; Theory of sendmail Operation; Understanding the sendmail.cf File; Address Rewriting Rules; Debugging sendmail; Understanding the Function of Sub-Domains in a Complex Mail Network; Setting Up Mail Sub-Domains and Mail Routing Hubs; Mail eXchanger (MX) Records and Mail Delivery in the Internet; Setting Up the Domain Naming System; Sendmail 8 - The Next Generation; Automatic Creation of send-mail.cf Files for Sendmail 8; and Verifying and Debugging sendmail.cf Files Generated by the sendmail Compiler.			
Perl Programming for the WWW	Available on Request (2 – 3 days)		$500–$700* per day	
	Prerequisite(s): Programming skills with a light background in Perl and HTML. Topics Include: On-line Resources; Server Configuration; Permissions; Setuid Issues; Tainting; Safe Perl; Data Security; OO Programming; Web Modules; CGI Programs; CGI.pm; What Went Wrong?; CGI Template; Using Forms; Form Template; Input Widgets; Submit Widgets; Reset Widgets; Sample Form; Password Fields; Text areas; Hidden Fields; Checkboxes; Radio Boxes; Popup Menus; Listboxes; Image Maps; Random Links; libwww Modules; Sending Mail; Shopping Carts; Database Access; and Advanced Topics.			
SGI System Administration (Beginning)	Available on Request (5 days)		$1800–$2300*	11688
	Prerequisite(s): Familiarity with using Silicon Graphics IRIS workstations and system administration procedures on other open system platforms. Topics Include: The Role of the System Administrator; Set Up and Configuration of an IRIS Workstation or Server; Supporting a Group of Silicon Graphics Users; System Security Maintenance; Backups and Recoveries; Configuration of Disk Drives; System Installation and Application Software; Attaching Terminals and Printers; Modifying the system Start Up and Shut Down Sequences; Automating Administrative Procedures; and Performing Basic System Troubleshooting.			
SGI Network Administration	Available on Request (5 days)		$1800–$2300*	11690
	Prerequisite(s): Completion of Silicon Graphics System Administration (Beginning) course or equivalent knowledge and experience. Topics Include: Networking Fundamentals; Network Configuration; Network Troubleshooting; Resource Management with Network; Information Services; Domain Management with Domain Name System; Electronic Mail with Sendmail; Remote File Sharing with Network File System & Automounter; Network Performance Monitoring; and Network Security.			

Course Title	Date	Time	Cost	Course Number
SGI System Administration (Advanced)	Available on Request (5 days)		$1800–$2300*	11689
	Prerequisite(s): Completion of Silicon Graphics System Administration (Beginning) course or equivalent knowledge and experience. Topics Include: System Error Monitoring; Kernel Reconfiguration and Debugging; System Monitoring Tools; Process Management; MultiProcessor CPU Management; Memory Management and Tuning; Swap Management and Tuning; Disk Management and Tuning; XPS Filesystem Management; and System Security Concepts.			
Solaris 2.X System Administration (Beginning)	Available on Request (5 days)		$1600–$2000*	7477
	Prerequisite(s): Knowledge of Unix commands and an editor. Topics include: Custom installation of Solaris2.X server; Add peripheral devices; Use format utility to display partition information; Compress and send binary files; Change system run levels; Add startup files for additional services; Add and remove software packages; Configure terminals and modems; Administer disks and file systems; Discuss basic networking concepts; Configure NFS to support the client-server environment; Use the automounter; Add and remove diskless clients; Back up and restore file systems; Perform basic recovery and troubleshooting procedures; Configure and administer the NIS+ environment.			
Solaris 2.X Network Administration	Available on Request (5 days)		$1600–$2000*	8107
	Prerequisite(s): Completion of Solaris 2.X System Administration (Beginning) class or equivalent knowledge and experience. Topics Include: Network Configuration; Remote Installation Procedures; Advanced Security Techniques; Troubleshooting Techniques; Customizing Sendmail; Network Application Tools; and Name Service Configuration.			
Sybase Performance Design and Tuning	Available on Request (5 days)		$1800–$2100*	
	Prerequisite(s): One year of Sybase programming or DBA experience OR at least two years of experience with Oracle, Informix, Ingres, or DB2 (no Sybase). Topics Include: Fundamentals of Performance; Designing Sybase Applications for High Performance; Tuning the Sybase Server; and Maintaining and Troubleshooting for Performance.			
UNIX (Basic)	Available on Request (4 days)	8:15–12:00	$400	
	Prerequisites: Basic computer literacy (knowledge of the keyboard and mouse) are helpful. Topics: Getting Started; UNIX File System; Editing with VI; Manipulating Files; Using C-Shell Features; Customizing Your Environment; Navigating the Network; Job Control; Generic UNIX Email; and Electronic Mail Registration (EMR).			
UNIX (Advanced)	Available on Request (4 days)	8:15–12:00	$400	
	Prerequisites: The Basic Unix class or equivalent knowledge. Topics: File Manipulation; File Reorganization; Network File System Concepts; Introduction to C-Shell Scripts; Conditional Execution; Shell Programming; The Korn Shell; Korn Shell Script Features; and SED Filtering Tool.			

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INTEGRATED COMPUTING NETWORK (ICN) VALIDATION REQUEST

Instructions:

(1) Complete all parts of this form that apply to you. Please take note of the "Special Requirements" section and complete any applicable parts.
(2) Manager (Group Leader or above) authorization and signature are required for all validation requests.
(3) Before submitting this request, ensure that your Employee Information System (EIS) information is current.
(4) Once completed, either mail this request to the Password Office at MS-B251, fax it to (505) 667-9617, or, if you are cleared, handcarry it to TA-3, SM-200, Room 257.

If you have questions call (505) 665-1805 or send e-mail to validate@lanl.gov

Owner Information

Z-Number (if you have one)			Name (last, first, middle initial)
LANL Group	Phone Number	LANL Mail Stop	Citizenship (Foreign National see "Special Requirements-Foreign National")

Check LANL affiliation:

- ☐ LANL employee
- ☐ Contractor _____ (specify contract company)
- ☐ External user _____ (specify employer)
- ☐ Other (specify) _____

Send password / smartcard to:

☐ Mail Stop or ☐ Mail to address indicated below

Name /Organization
Address
City, State, Zip Code

Access

Check access method and needed partitions:

Access method: ☐ ICN Password ☐ Smartcard ☐ Both

☐ Open partition (e.g., open machines, or for dial up access)

☐ Administrative partition (e.g., Travel, Data Warehouse, IA [BUCS, Stores], IB [EIS, FMIS, PAIRS])
If you are not a cleared LANL employee, see required steps in section "Special Requirements-Administrative Partition".

☐ Secure partition (i.e., secure machines)
A Q-clearance is required for secure access. After obtaining Manager signature for Secure access, handcarry this form to the Password Office to obtain your Secure account.

I certify this person does require secure access:

_____ _____
Manager Signature (Group Leader or above) Date

Password Office Use Only

New ☐ Change ☐	Clearance Status	Processed	Lv	Smartcard Serial #
Comments:				

Form 1646 (3/95) Supersedes previous versions (rev. 4/97).

Continue

Special Requirements

Administrative Partition

Lab-Wide Systems (e.g., Travel, Data Warehouse, IA [BUCS, Stores], IB [EIS, FMIS, PAIRS])

☐ Under 18 years of age

If you need to access Administrative systems, your Group Leader must provide a memo accepting responsibility for your actions and justifying your need for access. This memo is to accompany all forms taken to the security briefing (see "Contractor or Non-Cleared") section below. You may not access the Secure Partition.

☐ Contractor or Non-Cleared

Phone (505) 665-4444 (option #2) to obtain Access Authorization packet.

Phone (505) 667-9153 to schedule a security briefing.

Bring all forms including this ICN Validation Request to the security briefing for approval.

CIC-6 Security Briefing Approval Signature	Date

☐ Foreign National

Attach a copy of Form 982 (REQUEST FOR UNCLASSIFIED VISIT OR ASSIGNMENT BY A FOREIGN NATIONAL) with all approval signatures. Be sure Box #11 of Form 982 is completed. If you are not a visitor/assignee under a LANL/DOE approved Visit / Assignment Request, attach written justification from your host Group Leader or Division Director describing your need to access the ICN.

Authorization (required)

Print Manager Name (Group Leader or above)	Manager Z-Number	Group
Manager Signature (Group Leader or above)	**Mail Stop**	**Date**

If you are NOT a LANL employee, obtain your LANL contact's signature in addition to the contact's manager's signature.

NOTE: LANL contacts are regular Laboratory employees. Contacts are responsible for obtaining annual re-authorizations, forwarding renewal notices, and notifying the ICN Password Office of changes in user or contact status.

Print LANL Contact Name	Contact Z-Number	Phone Number	Group
LANL Contact Signature		**Mail Stop**	**Date**

NOTE: All Laboratory computers, computing systems, and their associated communication systems are for official business only. By completing this validation request and signing for a password and/or smartcard, you agree not to misuse the ICN. The Laboratory has the responsibility and authority to perodically audit user files.

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